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Application No. 10/078,540
Docket No. 740116-361In the Claims:

1. (Original) An electrical unit comprising a proximity switch and a cable terminal part, wherein the proximity switch includes an outside housing and an insulation part, the insulation part being located on one end face of the outside housing and containing a terminal element with terminal leads formed with terminal sockets, and wherein the cable terminal part includes a cable having wires and a connecting part, the cable being mounted in the connecting part and ends of leads of the wires being electrically connected to the terminal sockets of the terminal element, and further comprising a cap which surrounds at least the connecting part and is attached to an outside surface of the proximity switch.

2. (Original) The electrical unit as set forth in claim 1, wherein the cap is attached to the outside surface of the proximity switch by one of a catch connection and the cap having been stamped onto the outside surface of the proximity switch.

3. (Original) The electrical unit as set forth in claim 1, wherein an end of the cap facing away from the proximity switch has a conically tapered shape.

4. (Original) The electrical unit as set forth in claim 1, wherein an end of the cap facing away from the proximity switch has a smaller diameter than a portion of the cap facing the proximity switch.

5. (Original) The electrical unit as set forth in claim 1, wherein the cap has a size and shape which, when mounted on the outside surface of the proximity switch, radially compresses the connecting part.

6. (Original) The electrical unit as set forth in claim 1, further comprising an LED within the insulation part, wherein the insulation part is transparent and the cap has at least one viewing hole for viewing of the LED.

7. (Currently Amended) ~~An~~ The electrical unit as set forth in claim 1, further comprising a proximity switch and a cable terminal part, wherein the proximity switch

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~~includes an outside housing, an insulation part positioned on an end face of the outside housing, and a terminal element which includes leads formed with terminal sockets, and wherein the cable terminal part includes a cable mounted in a connecting part, the cable having wires electrically connected to the terminal sockets of the terminal element, wherein a ring is positioned around the connecting part, said ring being positioned around the connecting part having been reduced to an inside diameter that is less than outside dimensions of the connecting part and the cable from an initial inside diameter that is at least equal to the outside dimensions of the connecting part and the cable.~~

8. (Original) The electrical unit as set forth in claim 7, wherein the ring is located in a groove formed in the connecting part.

9. (Original) The electrical unit as set forth in claim 7, wherein the ring is composed of metal, and the inside diameter has been reduced by up to 50%.

10. (Original) The electrical unit as set forth in claim 9, wherein the ring is composed of steel, and inside diameter has been reduced by approximately 25%.

11. (Original) The electrical unit as set forth in claim 7, wherein the insulation part includes an alignment aid for aligning ends of the leads of the cable with the terminal sockets.

12. (Original) The electrical unit as set forth in claim 11, wherein the alignment aid includes holes for the leads, wherein each hole is one of a funnel-shaped or a cup-shaped opening.

13. (Original) The electrical unit as set forth in claim 7, wherein the insulation part and the cable terminal part each have corresponding alignment codes which enable correct alignment of the cable terminal part relative to the insulation part.

14. (Original) The electrical unit as set forth in claim 7, wherein the terminal sockets of the terminal element are composed of ferritic material and are shaped to hold a connecting agent.

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15. (Original) The electrical unit as set forth in claim 7, wherein the insulation part is attached in the outside housing having been stamped thereon.

16. (Original) The electrical unit as set forth in claim 7, wherein the insulation part is secured in the outside housing in a sealed manner by a weld.

17. (Withdrawn) A process for assembling a electrical unit comprising a proximity switch which includes an outside housing and an insulation part, and a cable terminal part which includes a cable and a connecting part, comprising the steps of:

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- providing the insulation part with a terminal element which includes terminals leading to the outside, and terminal sockets; wherein the terminal element extends through an interior of the insulation part,
 - connecting the outside housing and the insulation part,
 - attaching the cable within the connecting part,
 - attaching the cable terminal part to the proximity switch, and
 - electrically connecting lead ends of the cable to the terminal sockets of the terminal element by induction soldering,

wherein said induction soldering is performed using an induction coil located on the outside of the electrical unit in the vicinity of the terminal sockets and spaced an axial distance from an end of the outside housing adjacent the cable terminal part.

18. (Withdrawn) The process as set forth in claim 17, wherein an axial distance of the induction coil from the end of the outside housing is at least 5 mm.


19. (Withdrawn) The process as set forth in claim 17, wherein the electrical unit is pushed through a conductive shielding sheet such that the shielding sheet is positioned between the end of the outside housing and the induction coil.

20. (Withdrawn) The process as set forth in claim 19, wherein the shielding sheet is composed of aluminum and has a thickness in the range of approximately 0.5 - 1.5 mm and is positioned at a distance of approximately 0.5 to 1.5 mm from the end of the outside housing.

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21. (Withdrawn) A process for producing a electrical unit comprising a proximity switch which includes an outside housing and an insulation part, and a cable terminal part which includes a cable and a connecting part, comprising the steps of:

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- providing the insulation part with a terminal element, which includes terminals leading to the outside and terminal sockets; wherein the terminal element extends through an interior of the insulation part,
 - connecting the outside housing and the insulation part,
 - attaching the cable within the connecting part,
 - attaching the cable terminal part to the proximity switch and
 - electrically connecting lead ends of the cable to the terminal sockets of the terminal element by induction soldering,

wherein, after the connecting part has been positioned over the cable, a ring of an initial inside diameter at least equal to the exterior dimensions of the connecting part and the cable is positioned over the connection part and cable, and then, the inside diameter of the ring is reduced to an inside diameter less than the dimensions of the connecting part and the cable by a multi-segment press.
